

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### 188367 -1 Winch

Sample No: LH0296492

Oil Type: LIEBHERR GEAR BASIC 90 LS



#### Sample Information

Sample Number	LH0296492	---	---	---
Sample Date	21 Jun 2024	---	---	---
Machine Hours	652	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

**LIEBHERR CANADA LTD.**  
 1015 SUTTON DRIVE  
 BURLINGTON, ON  
 CA L7L 5Z8  
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#### Oil Condition

Visc @ 40°C	cSt	● 227	---	---	---
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#### Contamination

Water	%	NEG	---	---	---
Silicon	ppm	● 4	---	---	---
Sodium	ppm	● <1	---	---	---
Potassium	ppm	● <1	---	---	---



#### Wear Metals

Iron	ppm	● 67	---	---	---
Copper	ppm	● 6	---	---	---
Lead	ppm	● <1	---	---	---
Tin	ppm	0	---	---	---
Aluminum	ppm	● <1	---	---	---
Chromium	ppm	● 1	---	---	---
Molybdenum	ppm	● 0	---	---	---
Nickel	ppm	● <1	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	● <1	---	---	---
Vanadium	ppm	0	---	---	---



#### Additives

Calcium	ppm	84	---	---	---
Magnesium	ppm	● 2	---	---	---
Zinc	ppm	55	---	---	---
Phosphorus	ppm	418	---	---	---
Barium	ppm	● 2	---	---	---
Boron	ppm	● 17	---	---	---

#### Diagnosis

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. All component wear rates are normal. Free water present. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable due to the presence of contaminants.

**Depot:** LIEMIS  
**Unique No:** 5801935  
**Signed:** Kevin Marson  
**Report Date:** 27 Jun 2024



### Graphs

